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EXAMINER	
NELSON, FREDA ANN	

ART UNIT	PAPER NUMBER
3639	

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/736,555	HOLLIS ET AL.	
	Examiner	Art Unit	
	Freda A. Nelson	3639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-73* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-73* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The amendment received on May 26, 2006 is acknowledged and entered. Claims 1-2, 7, 14-22, 24-27, -28, 31, 52, and 70-73 have been amended. No claims have been added. Claims 1-73 are currently pending.

Response to Amendments and Arguments

Applicant's arguments filed May 26, 2006 have been fully considered but they are not persuasive.

In response to applicant's arguments, regarding claims 1, 31, 52, and 70-73, that Abraham does not deal with provide or allow (i) three-dimensional parts; (ii) loading a pre-existing file; and (iii) analyzing a custom manufactured part of arbitrary shape, it is noted that AAPA was applied for limitations (i) and (ii). As per limitation (iii) , Abraham et al. disclose that *"the rule-based parametric design feature, not only allows extension of the design to multiple panels, but to panels of irregular or varied shapes, such as to trapezoidal, triangular, peak pentagon, arch shapes, and to other geometrical shapes" (see col. 10, lines 7-16).*

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-30, 70-71, and 73 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1, step (a) **permitting** a client to provide on a client computer a pre-existing computer aided design (CAD) file describing a three-dimensional custom manufactured part of arbitrary shape determined by the client and step; and (b) **permitting** a client to access a server computer system from a client computer over a global communication network are indefinite. "Permitting" is not necessarily performing the action. So, these steps are distinct from actually doing the action, e.g. analyzing, calculating, and transmitting.

As per claims 70-71, and 73, respectively, step (a) **permitting** a client to access a server computer system from a client computer over a global communication network is indefinite. "Permitting" is not necessarily performing the action. So, this step is distinct from actually doing the action, e.g. analyzing, calculating, and transmitting.

Specification

2. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 21, 23, 31, 46, 52, 59, 67-68 and 70-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abraham et al. (Patent Number 5,570,292), in view of Applicant's Admitted Prior Art (hereinafter referred to as AAPA).

As per claims 1, 23, 52, 67-73 Abraham et al. disclose a method of providing a firm price quotation for a custom manufactured part, comprising:

(b) permitting a client to access a server computer system from a client computer over a global communication network (col. 4, lines 29-40; col. 8, lines 4-18; FIGS 1 and 7);

(c) uploading from the client computer to the server computer system the pre-existing CAD file (col. 11, lines 19-44; FIG. 6);

(d) analyzing the pre-exist CAD file on the server computer system to determine one or more manufacturing criteria for the custom manufactured part of arbitrary shape (col. 4, lines 13-17; col. 10, lines 12-16);

(e) calculating in the server computer system a firm price quotation for the custom manufactured part based upon the one or more manufacturing criteria (abstract; col. 4, lines 35-37; and FIG. 8); and

(f) transmitting the price quotation to the client computer over the global communication network (col. 8, lines 13-19; FIG. 8).

Abraham et al. do not expressly disclose (a) permitting a client to provide on a client computer a pre-existing computer aided design (CAD) file describing a three-dimensional custom manufactured part of arbitrary shape determined by the client.

However, AAPA discloses that these additive manufacturing techniques involve the use of computer controlled manufacturing processes which can manufacture a **three dimensional part** from a CAD file describing the part (page 2, lines 12-14); and the designer can use a **pre-existing CAD file** or may wish to create one expressly for prototyping purposes (page 5, lines 5-7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention have of

As per claims 21 and 59, Abraham et al. disclose prior to step (e), selecting one of a plurality of available materials; and wherein step (d) includes calculating the price quotation for the selected material (col. 8, lines 23-35).

As per claim 31, Abraham et al. disclose a program stored in a computer readable media for generating binding price quotations for custom manufactured parts comprising:

a CAD file analysis program portion for receiving a pre-existing CAD file describing one or more three-dimensional custom manufactured parts of arbitrary shape, said pre-existing CAD file being constructed independently of the program, and for analyzing the CAD file to determine one or more manufacturing criteria corresponding to each three-dimensional custom manufactured part of arbitrary shape; and

a price generation program portion for generating a binding price quotation based upon the one or more manufacturing criteria when executed by a processor (col. 8, lines 4-22).

Abraham et al. do not expressly disclose a CAD file analysis program portion for receiving a pre-existing CAD file describing one or more three-dimensional custom manufactured parts of arbitrary shape, said pre-existing CAD file being constructed independently of the program, and for analyzing the CAD file to determine one or more manufacturing criteria corresponding to each three-dimensional custom manufactured part of arbitrary shape.

However, AAPA discloses that these additive manufacturing techniques involve the use of computer controlled manufacturing processes which can manufacture a **three dimensional part** from a CAD file describing the part (page 2, lines 12-14); and the designer can use a **pre-existing CAD file** or may wish to create one expressly for prototyping purposes (page 5, lines 5-7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Abraham et al. to include the features of AAPA in order to construct a full scale three dimensional prototype of the part (AARA, page 1).u

As per claim 46, Abraham et al. disclose the program of claim 31, further comprising: an order generation program portion for assembling all electronic files corresponding to a price quotation into a single directory for transmission to a supplier responsible for the quotation (col. 4, lines 29-42).

As per claim 69, Abraham et al. disclose the method of claim 52, wherein: the computer system includes one and only one computer (see 30 of FIG.7).

4. Claims 2-6, 33-37, and 53-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abraham et al., in view of Applicant's Admitted Prior Art (hereinafter referred to as AAPA), still in further view of Tadao et al. (JP 09160945).

As per claims 2 and 53, Abraham et al. does not disclose the method as recited in claim 1, wherein step (e) is performed substantially instantly with a pre-programmed pricing formula.

Tadao et al. disclose that each cost element is calculated using a formula determined beforehand (paragraph 0020).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Abraham et al. to include the feature of Tadao et al. in order to calculate cost by using predetermined casting algorithms/formulae.

As per claims 3-6 and 54-58, Abraham et al. does not disclose the method as recited in claim 2, wherein the pricing formula is in the form:
price = a * V + b * H + c;

where a, b and c are preprogrammed constants, where V is the volume of the part, and where H is a vertical dimension of the part in a selected orientation; wherein

the selected orientation of the part is selected to minimize H and thus minimize the calculated price; wherein, the pricing formula includes a finish charge dependent upon a selected finish and a surface area of the part; and wherein the pricing formula includes a multiple part charge dependent upon a quantity of parts quoted. Uchida et al. does not expressly disclose the method wherein the wherein the pricing formula is in the form:

price = a * V + b * H + c .

However, Tadao et al. disclose that when computing the cost of materials, multiply the volume of a product by a specific gravity, apply the sprue/runner weight obtained and it considers as AUW.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to formulate and utilize any formula to calculate the manufacturing cost because applicant has not disclosed that the applicant's formula provides an advantage. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with the Abraham et al. and Tadao et al. because both can output the costs calculated by the various estimating means.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention Abraham et al. to include the pricing formula: price = a * V + b * H + c, in order to generate the price quotation for the product.

As per claims 33-37, Abraham et al. does not disclose the program, wherein:
the price generation program portion includes a pricing formula in the form:
price = a * V + b * H + c;
where a, b and c are preprogrammed constants;
where V is the volume of each part;
where H is a vertical dimension of each part in a selected orientation;

wherein: the constants a, b and c correspond to a specific business operations facility and are determined by a statistical regression of multiple data points of price data for the specific business operations facility onto the pricing formula;
wherein: the selected orientation of the part is selected such that H is minimized and the generated price quotation thus minimized;
wherein: the one or more manufacturing criteria determined by the CAD file analysis program portion include a surface area for each part; and the pricing formula includes a finish charge dependent upon a selected finish and the surface area of the parts; and
1. wherein: the pricing formula includes a multiple part charge dependent upon the quantity of parts quoted.

However, Tadao et al. disclose that when computing the cost of materials, multiply the volume of a product by a specific gravity, apply the sprue/runner weight obtained and it considers as AUW. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to formulate and utilize any formula to calculate the manufacturing cost because applicant has not disclosed that the applicant's formula provides an advantage. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with the Abraham et al. and Tadao et al. because both can output the costs calculated by the various estimating means.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention Abraham et al. to include the pricing formula: price = a * V + b * H + c, in order to generate the price quotation for the product.

5. Claims 7-12, 14-15, and 38-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abraham et al., in view of Applicant's Admitted Prior Art (hereinafter referred to as AAPA), in further view of Tadao et al., still in further view of Hazama et al. (Patent Number 6,539,399).

As per claims 7 and 38-40, Abraham et al. do not disclose the method further comprising: prior to step (e), permitting the client to select one of a plurality of available manufacturing processes; and wherein step (e) includes calculating the price quotation for the selected manufacturing process.

However, Hazama et al. disclose that the user can select a manufacturing process, such as bending or laser cutting (col. 4, lines 27-29); and the user develops an overall manufacturing plan that may include multiple manufacturing processes .

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Abraham et al. to include the feature or Hazama et al. in order to allow the customer to customize the parts by choosing the features.

As per claim 8, Abraham et al. do not disclose the method of claim 7, wherein: the manufacturing processes is an additive manufacturing process, however this difference is only found in the nonfunctional descriptive material and are on not functionally involved in the steps recited. The method of providing a firm price quotation for a custom manufactured part would be performed the same regardless of the data. Thus, descriptive material will not distinguish the clamed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381,1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ 2d 1031 (Fed. Cir. 1994).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a firm price quotation for a custom manufactured part because type of manufacturing process does not functionally relate to the steps in the method claimed and because the subjective interpretation of the data does not patentably distinguish the claimed invention.

As per claims 9 and 41, Abraham et al. do not disclose the method wherein: the additive manufacturing process is a stereo lithography process, however these differences are only found in the nonfunctional descriptive material and are on not functionally involved in the steps recited. The method of providing a firm price quotation for a custom manufactured part would be performed the same regardless of the data. Thus, descriptive material will not distinguish the clamed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381,1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ 2d 1031 (Fed. Cir. 1994).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a firm price quotation for a custom manufactured part because type of manufacturing process does not functionally relate to the steps in the method claimed and because the subjective interpretation of the data does not patentably distinguish the claimed invention.

As per claim 10, Abraham et al. do not disclose the method of claim 8, wherein: the additive manufacturing process is a selective sintering laser process, however these differences are only found in the nonfunctional descriptive material and are on not functionally involved in the steps recited. The method of providing a firm price quotation for a custom manufactured part would be performed the same regardless of the data. Thus, descriptive material will not distinguish the clamed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381,1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ 2d 1031 (Fed. Cir. 1994).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a firm price quotation for a custom manufactured part because type of manufacturing process does not functionally relate to the steps in the method claimed and because the subjective interpretation of the data does not patentably distinguish the claimed invention.

As per claim 11, Abraham et al. do not disclose the method of claim 8, wherein:

the additive manufacturing process is a fused deposition modeling process, however these differences are only found in the nonfunctional descriptive material and are on not functionally involved in the steps recited. The method of providing a firm price quotation for a custom manufactured part would be performed the same regardless of the data. Thus, descriptive material will not distinguish the clamed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381,1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ 2d 1031 (Fed. Cir. 1994).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a firm price quotation for a custom manufactured part because type of manufacturing process does not functionally relate to the steps in the method claimed and because the subjective interpretation of the data does not patentably distinguish the claimed invention.

As per claim 12, Abraham et al. do not disclose the method of claim 7, wherein: the manufacturing process is a formative manufacturing process, however these differences are only found in the nonfunctional descriptive material and are on not functionally involved in the steps recited. The method of providing a firm price quotation for a custom manufactured part would be performed the same regardless of the data. Thus, descriptive material will not distinguish the clamed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381,1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ 2d 1031 (Fed. Cir. 1994).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a firm price quotation for a custom manufactured part because type of manufacturing process does not functionally relate to the steps in the method claimed and because the subjective interpretation of the data does not patentably distinguish the claimed invention.

As per claim 14, Abraham et al. do not disclose the method of claim 7, wherein: the manufacturing process includes the molding of parts from soft rubber tooling created using a pattern manufactured by an additive manufacturing process; and

step (e) is performed with a pre-programmed pricing formula which includes a pattern part pricing formula, a tooling pricing formula, and a molded part pricing formula, however these differences are only found in the nonfunctional descriptive material and are on not functionally involved in the steps recited. The method of providing a firm price quotation for a custom manufactured part would be performed the same regardless of the data. Thus, descriptive material will not distinguish the clamed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381,1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ 2d 1031 (Fed. Cir. 1994).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a firm price quotation for a custom manufactured part because type of manufacturing process does not functionally relate to the steps in the method claimed and because the subjective interpretation of the data does not patentably distinguish the claimed invention.

As per claim 15, Abraham et al. do not disclose the method of claim 7, wherein: the manufacturing process includes injection molding of the parts from thermoplastic material using molds; and step (e) is performed with a pre-programmed pricing formula which includes a tooling pricing formula and a molded part pricing formula, however these differences are only found in the nonfunctional descriptive material and are on not functionally involved in the steps recited. The method of providing a firm price quotation for a custom manufactured part would be performed the same regardless of the data. Thus, descriptive material will not distinguish the clamed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381,1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ 2d 1031 (Fed. Cir. 1994).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a firm price quotation for a custom manufactured part because type of manufacturing process does not functionally relate to the steps in the method claimed and because the subjective interpretation of the data does not patentably distinguish the claimed invention.

As per claim 42, Abraham et al. does not disclose the method of claim 40, wherein: the plurality of manufacturing processes include: at least one additive manufacturing process; and at least one formative manufacturing process, however these differences are only found in the nonfunctional descriptive material and are on not functionally involved in the steps recited. The method of providing a firm price quotation for a custom manufactured part would be performed the same regardless of the data. Thus, descriptive material will not distinguish the clamed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381,1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ 2d 1031 (Fed. Cir. 1994).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a firm price quotation for a custom manufactured part because type of manufacturing process does not functionally relate to the steps in the method claimed and because the subjective interpretation of the data does not patentably distinguish the claimed invention.

6. Claims 13, 16-20, 24, 29-30, 43-45, 61 and 65-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abraham et al. (Patent Number 5,570,292), in view of Applicant's Admitted Prior Art (hereinafter referred to as AAPA), in further view of Tadao et al., still in further view of Hazama et al., still in further view of Protomold.com.

As per claims 13, 16-20, and 43, Abraham et al. does not disclose the method, wherein the one or more manufacturing criteria includes volume of the part; in step (c), the one or more manufacturing criteria include the geometric extent of the part along

multiple axes; and wherein in step (d), the one or more manufacturing criteria includes surface area of the part.

However, Protomold.com discloses that there are a number of requirements on part size, geometry, and surface finish for a part to be compatible with the Protomold process.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Abraham et al. to include the feature of Protomold.com in order provide the user with requirements or guidelines to be certain the parts are compatible to the process used.

As per claims 29-30, 44-45, and 65-66, Abraham et al. does not disclose the method, wherein the one or more manufacturing criteria further includes identification of three-dimensional geometric features relevant to a difficulty of the manufacturing process; and wherein the three-dimensional geometric features include at least one feature selected from the group consisting of parting lines, undercuts, pockets, protrusions, wall thickness, surface features and solid features.

However, Protomold.com discloses guidelines for thin/ deep ribs, corner radius, undercuts, draft, and shutoffs (page 15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Abraham et al. to include the feature of Protomold.com in order provide the user with requirements or guidelines to be certain the parts are compatible to the process used.

As per claims 24 and 61, Abraham et al. does not disclose the method comprising: prior to step (e), permitting the client to select a quantity of the part greater than one; and wherein step (e) includes calculating the price quotation for the selected quantity, wherein the quantity price per unit is less than the price for a single unit.

Protomold.com discloses permitting the client to select a quantity of the part greater than one (page 11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Abraham et al. to include the feature of Protomold.com to permit the customer the option of ordering more than one part.

7. Claim 22 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abraham et al. (Patent Number 5,570,292), in view of Applicant's Admitted Prior Art (hereinafter referred to as AAPA), in further view of Protomold.com, still in further view of Partsnow.com.

As per claims 22 and 60, Abraham et al. does not disclose prior to step (e), permitting the client to select one of a plurality of available surface finishes; wherein in

step (d), the one or more manufacturing criteria includes surface area of the part; and wherein in step (e), the price quotation is dependent upon the selected surface finish and the surface area.

However, Protomold.com discloses providing a polished finish (page 15), maximum projected area as viewed through the axis along which the mold moves is 30 sq. in. (page 15); a maximum volume part (page 15); and parts cost is typically $0.50-$$2.00 per part + $500 setup charge per order.

Partsnow.com discloses that Soligen typically provides hand finishing.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Abraham et al. to include the feature of Protomold.com and Partnow.com in order provide the user with costs for finishes, materials and processes.

8. Claims 25-26, 28, 47-51, and 62-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abraham et al. (Patent Number 5,570,292), in view of Applicant's Admitted Prior Art (hereinafter referred to as AAPA), still in further view of Takeshi et al. (JP 09114873).

As per claims 25 and 62, Abraham et al. do not disclose a method for providing a firm price quotation for a buildset including a plurality of custom manufactured parts, comprising:

determining a platform area required by each part of the buildset and determining a total platform area required by the buildset;

comparing the total platform area required by the buildset to an available platform area of a manufacturing machine to determine whether the entire buildset will fit on the platform;

if the entire buildset will not fit on the platform, dividing the buildset into a plurality of subsets small enough for each subset to fit on the platform;
wherein step (e) further includes calculating a firm price quotation for each subset, and summing the subset price quotations to provide a firm price quotation for the entire buildset.

However, Takeshi et al. discloses, for a volume calculation apparatus for 3D components defined using CAD, that the apparatus includes a buildset grouping program for grouping a plurality of parts making up a buildset into a plurality of subsets of parts, each subset being of a size that will fit upon an available platform area of a selected machine (abstract and FIGS. 6-7, 10, 12, 14, and 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention Abraham et al. to include the feature of Takeshi et al. for the purpose of generating a pricing for the entire buildset.

As per claims 26 and 63, Abraham et al. do not disclose the method, wherein the dividing step includes: ordering the parts from largest to least required platform area; and selecting the largest parts sequentially to make-up the subsets. Takeshi et al. discloses, for a volume calculation apparatus for 3D components defined using CAD, that the apparatus includes a buildset grouping program for grouping a plurality of parts making up a buildset into a plurality of subsets of parts, each subset being of a size that will fit upon an available platform area of a selected machine (abstract and FIGS. 6-7, 10, 12, 14, and 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention Abraham et al. to include the feature of Takeshi et al. for the purpose of determining the platform area and volume required by each part at high speed with high precision entire buildset.

As per claims 28, 51, and 64, Abraham et al. do not disclose the method, being further characterized as a method for providing a firm price quotation for a buildset including a plurality of custom manufactured parts, wherein: step (d) includes: determining X, and Z components for a rectangular box space enclosing each part; and optimizing an arrangement of the parts of the buildset within an available volume of a selected manufacturing machine to minimize an overall height of the buildset within the manufacturing machine, the overall height of the buildset being one of the one or more manufacturing criteria; and step (e) includes calculating a firm price quotation for the entire buildset based at least in part upon the overall height of the buildset.

However, Takeshi et al. discloses, for a volume calculation apparatus for 3D components defined using CAD, that the apparatus includes a buildset grouping program for grouping a plurality of parts making up a buildset into a plurality of subsets of parts, each subset being of a size that will fit upon an available platform area of a selected machine (abstract and FIGS. 6-7, 10, 12, 14, and 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention Abraham et al. to include the feature of Takeshi et al. for the purpose of determining the platform area and volume required by each part at high speed with high precision.

As per claim 47, Abraham et al. do not disclose the program of claim 31, further comprising: a buildset grouping program portion for grouping a plurality of parts making up a buildset into a plurality of subsets of parts, each subset being of a size that will fit upon an available platform area of a selected manufacturing machine.

However, Takeshi et al. discloses, for a volume calculation apparatus for 3D components defined using CAD, that the apparatus includes a buildset grouping program for grouping a plurality of parts making up a buildset into a plurality of subsets of parts, each subset being of a size that will fit upon an available platform area of a selected machine (abstract and FIGS. 6-7, 10, 12, 14, and 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention Abraham et al. to include the feature of Takeshi et al. for the purpose of determining the platform area and volume required by each part at high speed with high precision.

As per claim 48, Abraham et al. do not disclose the program of claim 47, wherein:

the price generation program portion calculates a price quotation for each subset, and sums the subset price quotations to generate a binding price quotation for the entire buildset.

However, Takeshi et al. discloses, for a volume calculation apparatus for 3D components defined using CAD, that the apparatus includes a buildset grouping program for grouping a plurality of parts making up a buildset into a plurality of subsets of parts, each subset being of a size that will fit upon an available platform area of a selected machine (abstract and FIGS. 6-7, 10, 12, 14, and 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention Abraham et al. to include the feature of Takeshi et al. for the purpose of determining the platform area and volume required by each part at high speed with high precision.

As per claim 49, Abraham et al. do not disclose the program of claim 47, wherein: the buildset grouping program portion determines a platform area required by each part orders the parts from largest to least required platform area, and selects the largest parts sequentially to make-up the subsets.

However, Takeshi et al. discloses, for a volume calculation apparatus for 3D components defined using CAD, that the apparatus includes a buildset grouping program for grouping a plurality of parts making up a buildset into a plurality of subsets of parts, each subset being of a size that will fit upon an available platform area of a selected machine (abstract and FIGS. 6-7, 10, 12, 14, and 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention Abraham et al. to include the feature of Takeshi et al. for the purpose of determining the platform area and volume required by each part at high speed with high precision.

As per claim 50, Abraham et al. do no disclose the program of claim 31, further comprising: a buildset grouping program portion for grouping a plurality of parts making up the buildset into a plurality of subsets of parts, each subset being of a size that will fit into an available volume of a selected manufacturing machine.

However, Takeshi et al. discloses, for a volume calculation apparatus for 3D components defined using CAD, that the apparatus includes a buildset grouping program for grouping a plurality of parts making up a buildset into a plurality of subsets of parts, each subset being of a size that will fit upon an available platform area of a selected machine (abstract and FIGS. 6-7, 10, 12, 14, and 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention Abraham et al. to include the feature of Takeshi et al. for the purpose of determining the platform area and volume required by each part at high speed with high precision.

9. Claims 27 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abraham et al. (Patent Number 5,570,292), in view of Applicant's Admitted Prior Art (hereinafter referred to as AAPA), still in further view of Partsnow.com.

As per claims 27 and 32, Abraham et al. does not disclose the method, wherein in step (c) the CAD file is an STL file.

However, Partsnow.com disclose that Soligen's preference in file formats are as follows: Binary STL file and ASCII STL file (page 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Abraham et al. to include the feature of Partsnow.com in order permit the user to send CAD files with various formats.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freda A. Nelson whose telephone number is (571) 272-7076. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FAN 08/25/2006

Freda Nelson

JOHN W. HAYES
SUPERVISORY PATENT EXAMINER